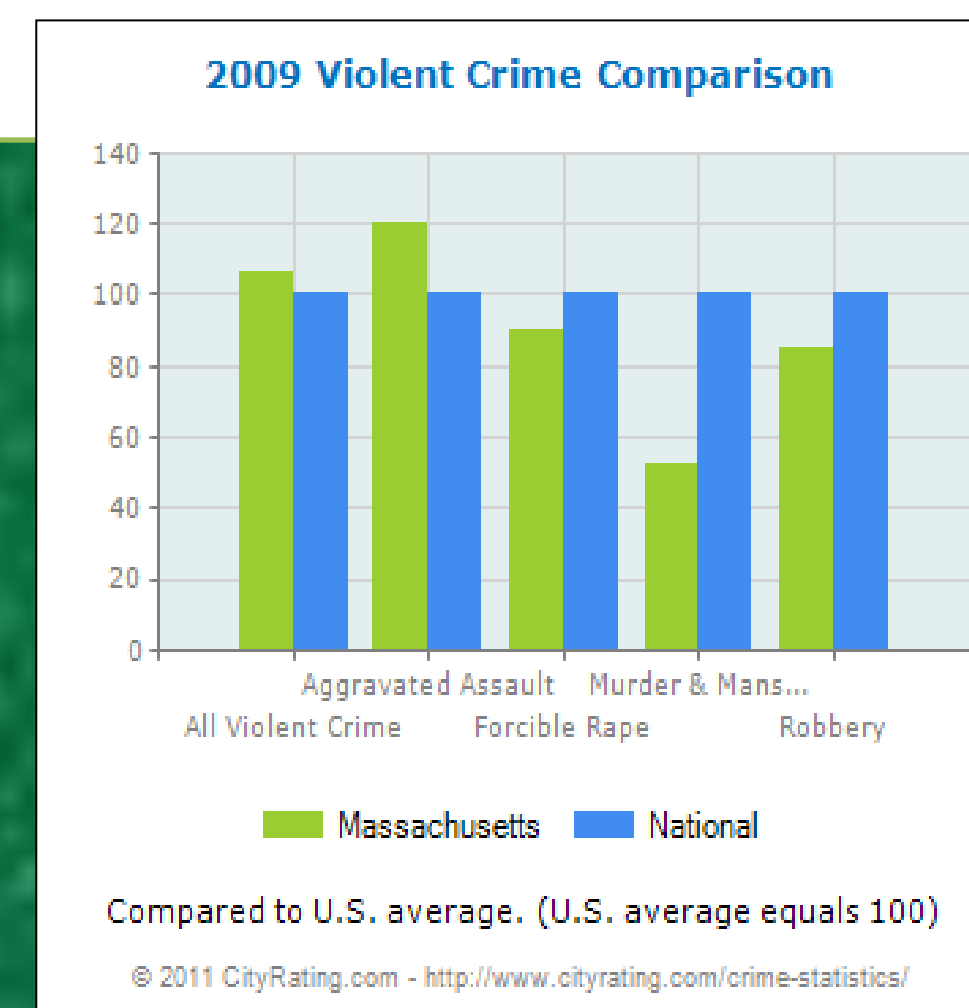
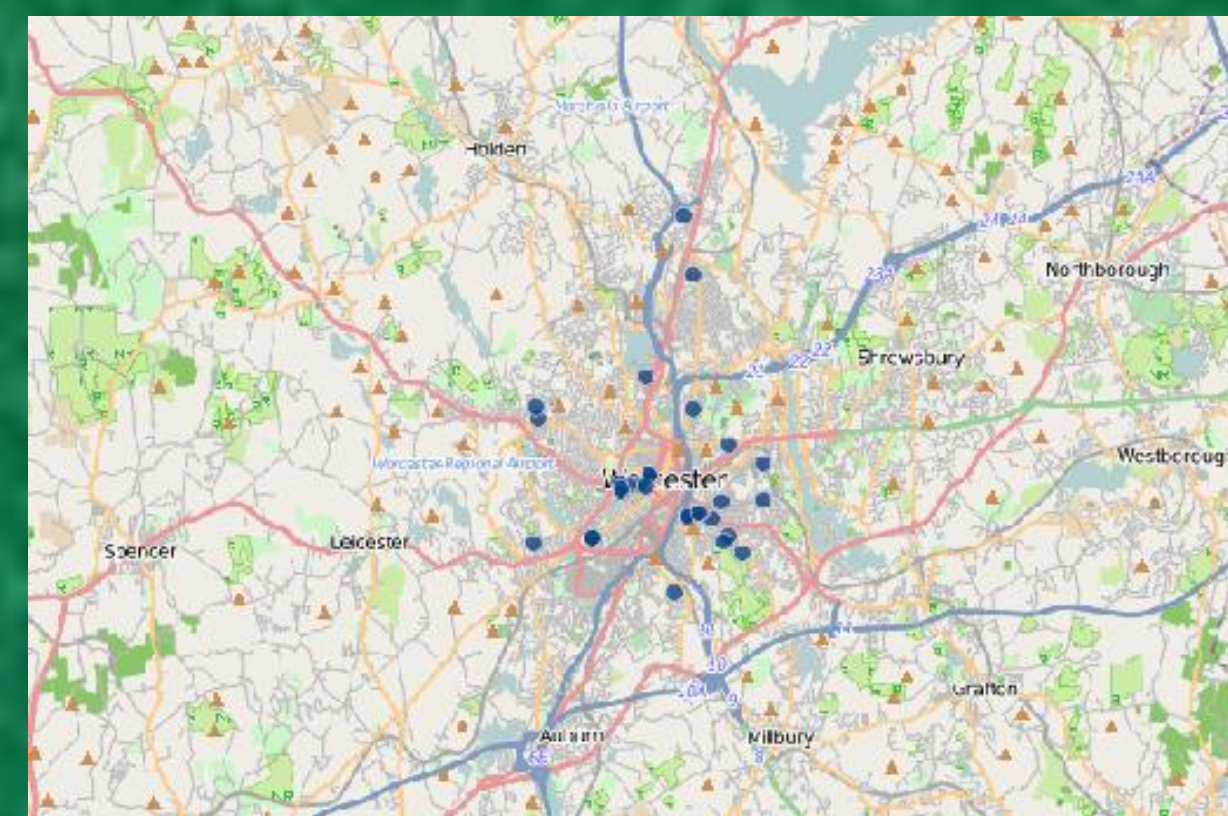


Abstract

By bringing greenhouses into an urban area, mainly Worcester, MA, low-income families can now get more food choices. The greenhouses don't use the conventional method to growing plants but use hydroponics and areoponics. Greenhouses can be kept up and monitored with the help of volunteers.



Background

Worcester compared to the whole state of MA has 19.5% of poverty level to the state which has 10.3% in 2009. People living 50% below poverty level for Worcester was 7.3% compared to the state with 4.5% in that same year.

According to Massachusetts State Treasury, "It is estimated that one person in every ten has abandoned property. According to the Massachusetts Abandoned Property Laws, most financial assets that have been inactive for more than three years are declared 'abandoned' and turned over to the Commonwealth."



Problem

Many low-income families in Worcester, MA aren't getting a variety of food that meet the daily requirement due to highly expensive foods and job salaries staying at a stand still. Locations of grocery stores also go along with this problem, without access to large chain supermarkets these low-income individuals are forced to go to innutritious products that convenient stores provide.

Solution

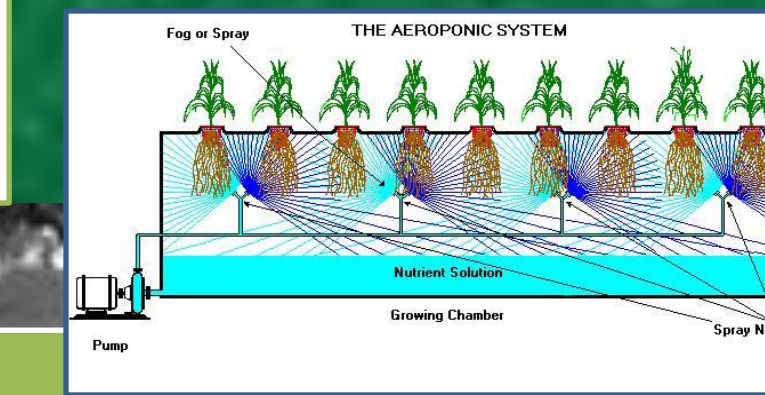
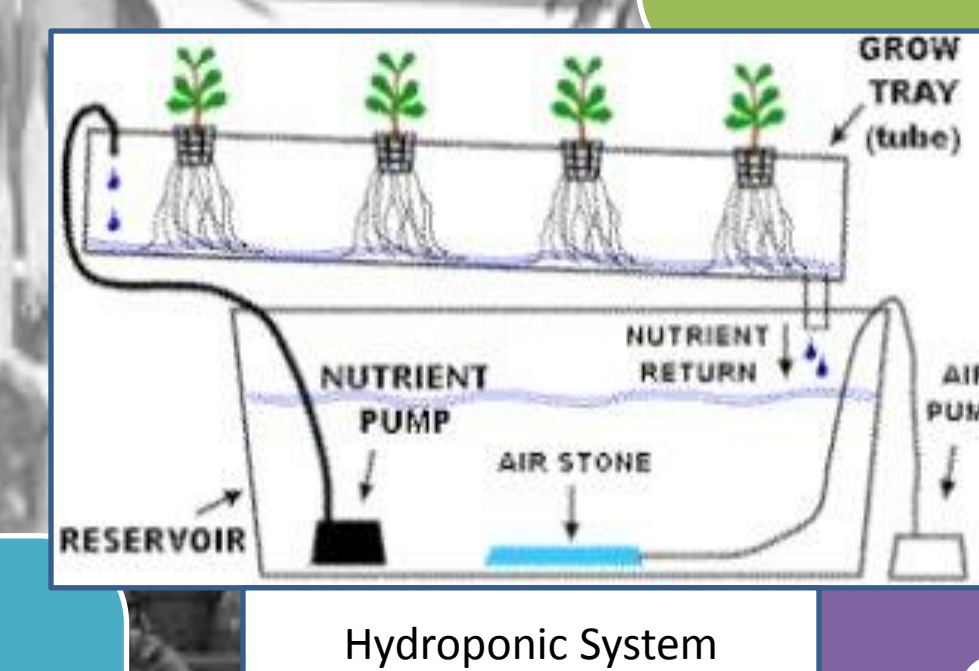
Build a greenhouse in an abandon building. Building will include security system, allowing people access to get in/out, sensors to monitor plant growth, access to water and heat to help plants grow.

Use hydroponics and areoponics to raise plants. Hydroponics is like conventional way of growing food but there is no soil. Areoponics the roots are exposed. There is limited chance of disease and pets getting into the food.

Have volunteers monitor and spread the fruits and vegetables to people who can't get to the greenhouse.

Give swipe cards to families in the area (1 per family) and 1 per volunteer to allow people inside the greenhouse.

Continue monitoring plants and what is "bought" to see if the plants should be switched out to bring in new ones



Results

Experiment done by Dr. Lynette Morgan using hydroponics to grow cucumber, squash, geranium, marigold and carrot concluded:

"At the time of harvest, both bean weight and the weight of the plant tops (stems and leaves) was determined. The fulvic acid treatment results in a 36% increase in bean weight at harvest and a 36.5% increase in the above ground portion of the plants. This represents an overall increase in plant growth as well as in harvestable yield. The plants treated with fulvic acid flowered on average four days ahead of the control plots."

Areoponics Advantages are (according to Dr. Lynette Morgan on QuickGrow.com)

- Grower ability- roots are hanging, no pots no constraints
- Temperature advantage- room is at a constant temperature no battling environmental issues.
- Misting Frequency and Nutrient Reservoir-constant source of food/nutrients
- The Importance of Filtration, Light and Pressure- keeps water clean of dirt or disease to give to plants

Crime rates will go down due to no vacancy in the area.

Brings the community together and helps people feel like they have made a difference, raising something and calling it their own.

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